

62079  
**Sharpening Center**  
(Model 23-710)



PART NO. 1346949 - 05-14-04  
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**RTD10000127AA**

# SAFETY GUIDELINES - DEFINITIONS

This manual contains information that is important for you to know and understand. This information relates to protecting YOUR SAFETY and PREVENTING EQUIPMENT PROBLEMS. To help you recognize this information, we use the symbols below. Please read the manual and pay attention to these sections.

## ⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

## ⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

## ⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

## CAUTION

Used without the safety alert symbol indicates potentially hazardous situation which, if not avoided, may result in property damage.

## ⚠ WARNING

**SOME DUST CREATED BY POWER SANDING, SAWING, GRINDING, DRILLING, AND OTHER CONSTRUCTION ACTIVITIES** contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, always wear **MSHA/NIOSH** approved, properly fitting face mask or respirator when using such tools.

# GENERAL SAFETY RULES



## ⚠ WARNING

**READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUCTIONS BEFORE USING THIS EQUIPMENT.** Failure to follow all instructions listed below, may result in electric shock, fire, and/or serious personal injury or property damage.

## IMPORTANT SAFETY INSTRUCTIONS

Woodworking can be dangerous if safe and proper operating procedures are not followed. As with all machinery, there are certain hazards involved with the operation of the product. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result. Safety equipment such as guards, push sticks, hold-downs, featherboards, goggles, dust masks and hearing protection can reduce your potential for injury. But even the best guard won't make up for poor judgment, carelessness or inattention. Always use common sense and exercise caution in the workshop. If a procedure feels dangerous, don't try it. Figure out an alternative procedure that feels safer. **REMEMBER:** Your personal safety is your responsibility. For additional information please visit our website [www.deltamachinery.com](http://www.deltamachinery.com).

## ⚠ WARNING

This machine was designed for certain applications only. Delta Machinery strongly recommends that this machine not be modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, **DO NOT** use the machine until you have first contacted Delta to determine if it can or should be performed on the product.

**Technical Service Manager**  
**Delta Machinery**  
**4825 Highway 45 North**  
**Jackson, TN 38305**  
(IN CANADA: 505 SOUTHGATE DRIVE, GUELPH, ONTARIO N1H 6M7)

# GENERAL SAFETY RULES

**⚠ WARNING FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS INJURY.**

- 1. FOR YOUR OWN SAFETY, READ THE INSTRUCTION MANUAL BEFORE OPERATING THE MACHINE.** Learning the machine's application, limitations, and specific hazards will greatly minimize the possibility of accidents and injury.
- 2. WEAR EYE PROTECTION. ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses are NOT safety glasses. **USE CERTIFIED SAFETY EQUIPMENT.** Eye protection equipment should comply with ANSI Z87.1 standards, hearing equipment should comply with ANSI S3.19 standards, and dust mask protection should comply with MSHA/NIOSH certified respirator standards. Splinters, air-borne debris, and dust can cause irritation, injury, and/or illness.
- 3. WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
- 4. DO NOT USE THE MACHINE IN A DANGEROUS ENVIRONMENT.** The use of power tools in damp or wet locations or in rain can cause shock or electrocution. Keep your work area well-lit to prevent tripping or placing arms, hands, and fingers in danger.
- 5. MAINTAIN ALL TOOLS AND MACHINES IN PEAK CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories. Poorly maintained tools and machines can further damage the tool or machine and/or cause injury.
- 6. CHECK FOR DAMAGED PARTS.** Before using the machine, check for any damaged parts. Check for alignment of moving parts, binding of moving parts, breakage of parts, and any other conditions that may affect its operation. A guard or any other part that is damaged **should be properly repaired or replaced.** Damaged parts can cause further damage to the machine and/or injury.
- 7. KEEP THE WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- 8. KEEP CHILDREN AND VISITORS AWAY.** Your shop is a potentially dangerous environment. Children and visitors can be injured.
- 9. REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure that the switch is in the "OFF" position before plugging in the power cord. In the event of a power failure, move the switch to the "OFF" position. An accidental start-up can cause injury.
- 10. USE THE GUARDS.** Check to see that all guards are in place, secured, and working correctly to prevent injury.
- 11. REMOVE ADJUSTING KEYS AND WRENCHES BEFORE STARTING THE MACHINE.** Tools, scrap pieces, and other debris can be thrown at high speed, causing injury.
- 12. USE THE RIGHT MACHINE.** Don't force a machine or an attachment to do a job for which it was not designed. Damage to the machine and/or injury may result.
- 13. USE RECOMMENDED ACCESSORIES.** The use of accessories and attachments not recommended by Delta may cause damage to the machine or injury to the user.
- 14. USE THE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. See the Extension Cord Chart for the correct size depending on the cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
- 15. SECURE THE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. Loss of control of a workpiece can cause injury.
- 16. FEED THE WORKPIECE AGAINST THE DIRECTION OF THE ROTATION OF THE BLADE, CUTTER, OR ABRASIVE SURFACE.** Feeding it from the other direction will cause the workpiece to be thrown out at high speed.
- 17. DON'T FORCE THE WORKPIECE ON THE MACHINE.** Damage to the machine and/or injury may result.
- 18. DON'T OVERREACH.** Loss of balance can make you fall into a working machine, causing injury.
- 19. NEVER STAND ON THE MACHINE.** Injury could occur if the tool tips, or if you accidentally contact the cutting tool.
- 20. NEVER LEAVE THE MACHINE RUNNING UNATTENDED. TURN THE POWER OFF.** Don't leave the machine until it comes to a complete stop. A child or visitor could be injured.
- 21. TURN THE MACHINE "OFF", AND DISCONNECT THE MACHINE FROM THE POWER SOURCE** before installing or removing accessories, before adjusting or changing set-ups, or when making repairs. An accidental start-up can cause injury.
- 22. MAKE YOUR WORKSHOP CHILDPROOF WITH PADLOCKS, MASTER SWITCHES, OR BY REMOVING STARTER KEYS.** The accidental start-up of a machine by a child or visitor could cause injury.
- 23. STAY ALERT, WATCH WHAT YOU ARE DOING, AND USE COMMON SENSE. DO NOT USE THE MACHINE WHEN YOU ARE TIRED OR UNDER THE INFLUENCE OF DRUGS, ALCOHOL, OR MEDICATION.** A moment of inattention while operating power tools may result in injury.
- 24. TAKE PRECAUTIONS AGAINST DUST INHALATION.** The dust generated by certain woods and wood products can be injurious to your health. Always operate machinery in well-ventilated areas, and provide for proper dust removal. Use wood dust collection systems whenever possible.

# ADDITIONAL SAFETY RULES FOR SHARPENING CENTERS

**⚠ WARNING** FAILURE TO FOLLOW THESE RULES MAY RESULT IN SERIOUS INJURY.

1. **DO NOT OPERATE THIS MACHINE** until it is completely assembled and installed according to the instructions. A machine incorrectly assembled can cause serious injury.
2. **OBTAIN ADVICE** from your supervisor, instructor, or another qualified person if you are not thoroughly familiar with the operation of this machine. Knowledge is safety.
3. **FOLLOW ALL WIRING CODES** and recommended electrical connections to prevent shock or electrocution.
4. **ALWAYS USE THE PROVIDED BLOTTER AND WHEEL FLANGES** to mount the grinding wheels on the grinder shaft to prevent wheel damage or accidental separation. Separation can result in fragments flying off the wheel at high speeds.
5. **USE ONLY WHEELS** suitable for the speed of the machine. Unsuitable grinding wheels can come apart, throwing fragments out at high speeds.
6. **USE ONLY WHEELS** that have a bore exactly equal to the arbors of the machine. Never attempt to machine an undersized wheel to fit an arbor. Unsuitable grinding wheels can come apart, throwing fragments out at high speeds.
7. **DO NOT OVERTIGHTEN WHEEL NUT.**
8. **DO NOT USE A WHEEL THAT VIBRATES.** Dress the grinding wheel, replace it, or replace the bearings of the shaft. Unsuitable grinding wheels can come apart, throwing fragments at high speeds.
9. **INSPECT WHEELS** before starting the machine for cracks or fragments. **REPLACE DAMAGED WHEELS** immediately. Parts of the wheel can be thrown at high speeds causing serious injury.
10. **ADJUST EYE SHIELDS** close to the grinding wheel, and re-adjust as the wheel wears down. Flying sparks are dangerous and can cause fires or explosions.
11. **ALWAYS MAKE SURE** the eye shields are in place, properly adjusted, and secured.
12. **ADJUST TOOL RESTS** close to the grinding wheel (1/8" separation or less). Tighten the tool rest securely to prevent shifting positions, and re-adjust as the wheel wears down. The workpiece can be drawn into the wheel, causing damage to the workpiece and/or serious injury.
13. **STAND TO ONE SIDE** before turning the machine "ON". Loose fragments or wheel parts could fly from the wheel at high speeds.
14. **NEVER GRIND ON A COLD WHEEL.** Run the grinder for one full minute before applying the workpiece. A cold wheel has a tendency to chip. Those fragments could fly from the wheel at high speeds.
15. **NEVER START THE MACHINE** with the workpiece against the grinding wheel. The workpiece can be drawn into the wheel, causing damage to the machine and/or serious injury.
16. **CLEAN THE MACHINE** thoroughly when processing different types of workpieces (wood, steel, or aluminum). Combining wood and metal dust can create an explosion or fire hazard. **DO NOT GRIND OR POLISH MAGNESIUM.** Fire will result.
17. **NEVER GRIND NEAR FLAMMABLE GAS OR LIQUIDS.** Sparks can create a fire or an explosion.
18. **AVOID AWKWARD OPERATIONS AND HAND POSITIONS.** A sudden slip could cause a hand to move into the grinding wheel.
19. **KEEP ARMS, HANDS, AND FINGERS** away from the wheel. The abrasive surfaces can cause serious injury.
20. **HOLD THE WORKPIECE FIRMLY** against the tool rest. Loss of control of the workpiece can cause serious injury.
21. **DRESS THE WHEEL** on the face only. Dressing the side of the wheel could cause it to become too thin for safe use.
22. **GRIND A WORKPIECE** using the face of the grinding wheel only. Loss of control of the workpiece can cause serious injury.
23. **NEVER APPLY COOLANT** directly to the grinding wheel. Coolant can weaken the bonding strength of the grinding wheel and cause it to fail. Dip the workpiece in water to cool it.
24. **DO NOT TOUCH** the ground portion of a workpiece until it has cooled sufficiently. Grinding creates heat.
25. **PROPERLY SUPPORT LONG OR WIDE WORKPIECES.** Loss of control of the workpiece can cause serious injury.
26. **NEVER PERFORM LAYOUT, ASSEMBLY,** or set-up work on the table/work area when the machine is running. A sudden slip could cause a hand to move into the wheel. Severe injury can result.
27. **TURN THE MACHINE "OFF",** disconnect the machine from the power source, and clean the table/work area before leaving the machine. **LOCK THE SWITCH IN THE "OFF" POSITION** to prevent unauthorized use. Someone else might accidentally start the machine and cause serious injury to themselves.
28. **ADDITIONAL INFORMATION** regarding the safe and proper operation of power tools (i.e. a safety video) is available from the Power Tool Institute, 1300 Sumner Avenue, Cleveland, OH 44115-2851 ([www.powertoolinstitute.com](http://www.powertoolinstitute.com)). Information is also available from the National Safety Council, 1121 Spring Lake Drive, Itasca, IL 60143-3201. Please refer to the American National Standards Institute ANSI O1.1 Safety Requirements for Woodworking Machines and the U.S. Department of Labor OSHA 1910.213 Regulations.

**SAVE THESE INSTRUCTIONS.**  
**Refer to them often**  
**and use them to instruct others.**

## POWER CONNECTIONS

A separate electrical circuit should be used for your machines. This circuit should not be less than #12 wire and should be protected with a 20 Amp time lag fuse. If an extension cord is used, use only 3-wire extension cords which have 3-prong grounding type plugs and matching receptacle which will accept the machine's plug. Before connecting the machine to the power line, make sure the switch (s) is in the "OFF" position and be sure that the electric current is of the same characteristics as indicated on the machine. All line connections should make good contact. Running on low voltage will damage the machine.

**⚠ DANGER DO NOT EXPOSE THE MACHINE TO RAIN OR OPERATE THE MACHINE IN DAMP LOCATIONS.**

## MOTOR SPECIFICATIONS

Your machine is wired for 120 volts 60 HZ alternating current. Before connecting the machine to the power source, make sure the switch is in the "OFF" position.

## GROUNDING INSTRUCTIONS

**⚠ DANGER THIS MACHINE MUST BE GROUNDED WHILE IN USE TO PROTECT THE OPERATOR FROM ELECTRIC SHOCK.**

### 1. All grounded, cord-connected machines:

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This machine is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided - if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the machine is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding type plugs and matching 3-conductor receptacles that accept the machine's plug, as shown in Fig. A.

Repair or replace damaged or worn cord immediately.

### 2. Grounded, cord-connected machines intended for use on a supply circuit having a nominal rating less than 150 volts:

If the machine is intended for use on a circuit that has an outlet that looks like the one illustrated in Fig. A, the machine will have a grounding plug that looks like the plug illustrated in Fig. A. A temporary adapter, which looks like the adapter illustrated in Fig. B, may be used to connect this plug to a matching 2-conductor receptacle as shown in Fig. B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug, and the like, extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box. Whenever the adapter is used, it must be held in place with a metal screw.

**NOTE: In Canada, the use of a temporary adapter is not permitted by the Canadian Electric Code.**

**⚠ DANGER IN ALL CASES, MAKE CERTAIN THE RECEPTACLE IN QUESTION IS PROPERLY GROUNDED. IF YOU ARE NOT SURE HAVE A QUALIFIED ELECTRICIAN CHECK THE RECEPTACLE.**

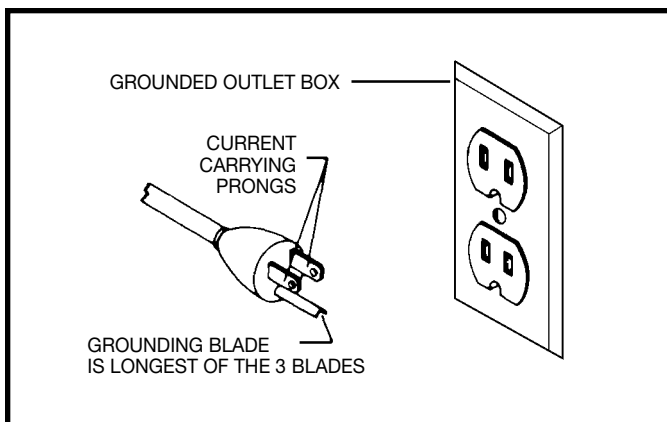


Fig. A

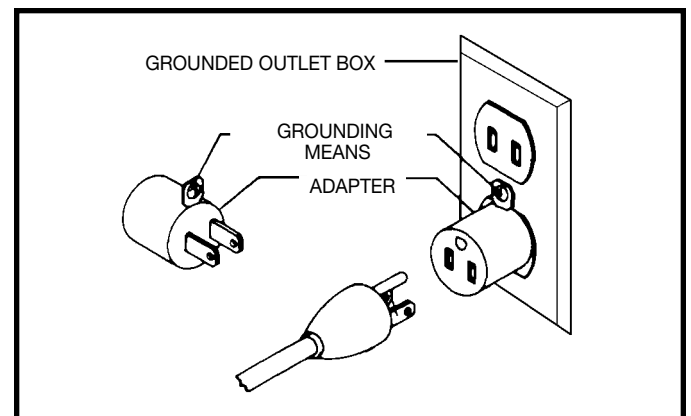


Fig. B

# EXTENSION CORDS

**CAUTION** Use proper extension cords. Make sure your extension cord is in good condition and is a 3-wire extension cord which has a 3-prong grounding type plug and matching receptacle which will accept the machine's plug. When using an extension cord, be sure to use one heavy enough to carry the current of the machine. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. Fig. D-1 or D-2, shows the correct gauge to use depending on the cord length. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

MINIMUM GAUGE EXTENSION CORD			
RECOMMENDED SIZES FOR USE WITH STATIONARY ELECTRIC MACHINES			
Ampere Rating	Volts	Total Length of Cord in Feet	Gauge of Extension Cord
0-6	120	up to 25	18 AWG
0-6	120	25-50	16 AWG
0-6	120	50-100	16 AWG
0-6	120	100-150	14 AWG
6-10	120	up to 25	18 AWG
6-10	120	25-50	16 AWG
6-10	120	50-100	14 AWG
6-10	120	100-150	12 AWG
10-12	120	up to 25	16 AWG
10-12	120	25-50	16 AWG
10-12	120	50-100	14 AWG
10-12	120	100-150	12 AWG
12-16	120	up to 25	14 AWG
12-16	120	25-50	12 AWG
12-16	120	GREATER THAN 50 FEET NOT RECOMMENDED	

Fig. D-1

MINIMUM GAUGE EXTENSION CORD			
RECOMMENDED SIZES FOR USE WITH STATIONARY ELECTRIC MACHINES			
Ampere Rating	Volts	Total Length of Cord in Feet	Gauge of Extension Cord
0-6	240	up to 50	18 AWG
0-6	240	50-100	16 AWG
0-6	240	100-200	16 AWG
0-6	240	200-300	14 AWG
6-10	240	up to 50	18 AWG
6-10	240	50-100	16 AWG
6-10	240	100-200	14 AWG
6-10	240	200-300	12 AWG
10-12	240	up to 50	16 AWG
10-12	240	50-100	16 AWG
10-12	240	100-200	14 AWG
10-12	240	200-300	12 AWG
12-16	240	up to 50	14 AWG
12-16	240	50-100	12 AWG
12-16	240	GREATER THAN 100 FEET NOT RECOMMENDED	

Fig. D-2

# FUNCTIONAL DESCRIPTION

## FOREWORD

The Delta Industrial Sharpening Center Model 23-710 has a 1/5 HP motor. It also comes with a 5" diameter, 120 grit aluminum oxide dry wheel, an 8" diameter, 1000-grit wet wheel, a tool rest and base, a sliding tool holder, a water tank, eye shield and wrenches.



## UNPACKING AND CLEANING

Carefully unpack the machine and all loose items from the shipping container(s). Remove the protective coating from all unpainted surfaces. This coating may be removed with a soft cloth moistened with kerosene (do not use acetone, gasoline or lacquer thinner for this purpose). After cleaning, cover the unpainted surfaces with a good quality household floor paste wax.

**NOTICE: THE PHOTO ON THE MANUAL COVER ILLUSTRATES THE CURRENT PRODUCTION MODEL. ALL OTHER ILLUSTRATIONS CONTAINED IN THE MANUAL ARE REPRESENTATIVE ONLY AND MAY NOT DEPICT THE ACTUAL COLOR, LABELING OR ACCESSORIES AND ARE INTENDED TO ILLUSTRATE TECHNIQUE ONLY.**

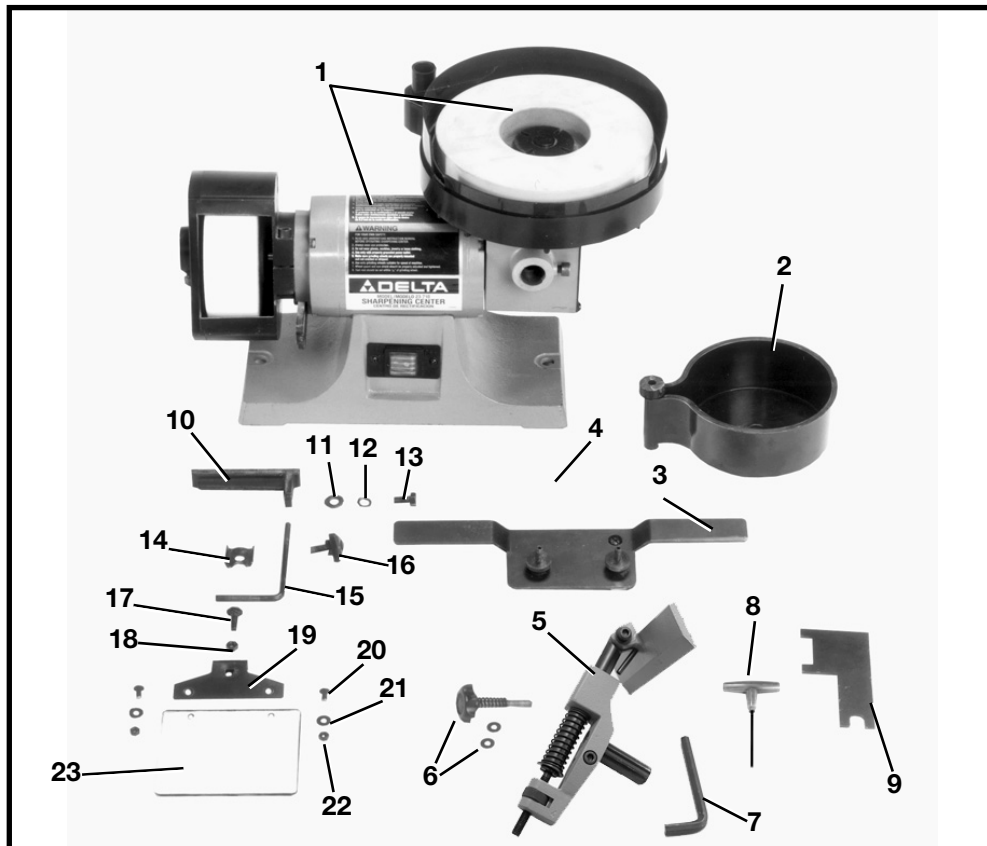


Fig. 2

- |   |                                     |
|---|-------------------------------------|
| 1. Sharpening Center  | 12. Lockwasher                      |
| 2. Water Tank   | 13. 5/8" Long Hex Head Screw        |
| 3. Tool and Chisel Holder   | 14. Eyeshield Clamp Bracket         |
| 4. Wheel Dressing Stone   | 15. Eyeshield Mounting Rod          |
| 5. Tool and Chisel Holder Base Assembly                                   | 16. Eyeshield Lock Knob             |
| 6. Tilting Screw and Spring for Tool and Chisel Holder w/(2) Flat Washers | 17. 3/4" Long Carriage Head Bolt    |
| 7. 6mm Allen wrench   | 18. 1/4-20 Hex Nut                  |
| 8. 6mm Allen Wrench   | 19. Eyeshield Frame                 |
| 9. Wrench   | 20. 1/2" Long, Round Head Screw (2) |
| 10. Tool Rest for Dry Wheel   | 21. Flat Washer (2)                 |
| 11. Flat Washer   | 22. #10-24 Hex Nut (2)              |
|   | 23. Eyeshield                       |

# ASSEMBLY

**⚠ WARNING** FOR YOUR OWN SAFETY, DO NOT CONNECT MACHINE TO THE POWER SOURCE UNTIL THE MACHINE IS COMPLETELY ASSEMBLED AND YOU HAVE READ AND UNDERSTAND THE ENTIRE INSTRUCTION MANUAL.

## ASSEMBLING AND ADJUSTING EYESHIELD

1. Position eyeshield (A) Fig. 3, under lip of frame (B). Line up holes in eyeshield (A) with holes in frame (B) and fasten eyeshield to frame using two 1/2" long round head screws (C), flat washers (D) and hex nuts (E). Place flat washer on round head screw, place screw through hole and then fasten hex nut to screw under the frame.
2. Insert short end of eyeshield mounting rod (F) Fig. 4, into top of frame (B) and fasten in place with the 3/4" long carriage head bolt (G) and hex nut (H).
3. Figure 5, illustrates the mounting rod (F), frame (B) and eyeshield (A) assembled.
4. Assemble the long end of eyeshield mounting rod (F) Fig. 6, to the side of the dry wheel guard using clamp bracket (J) and lock knob (K). The eyeshield (A) is fully adjustable to any position by moving shield (A) or loosening lock knob (K) and repositioning mounting rod (F).

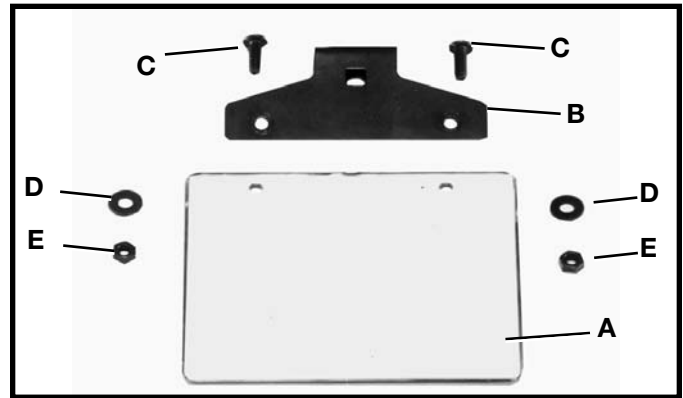


Fig. 3

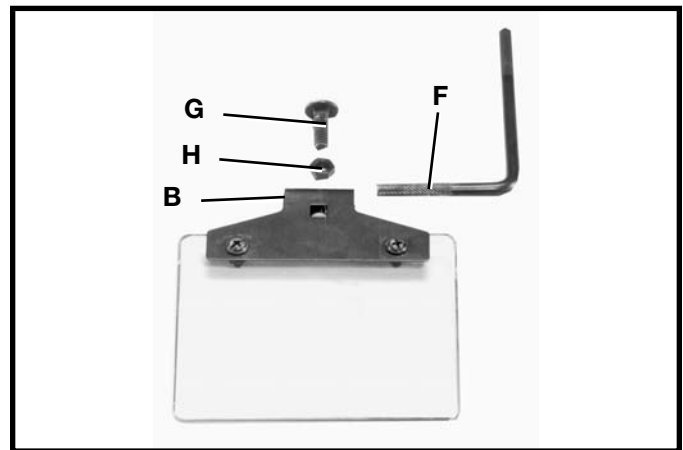


Fig. 4

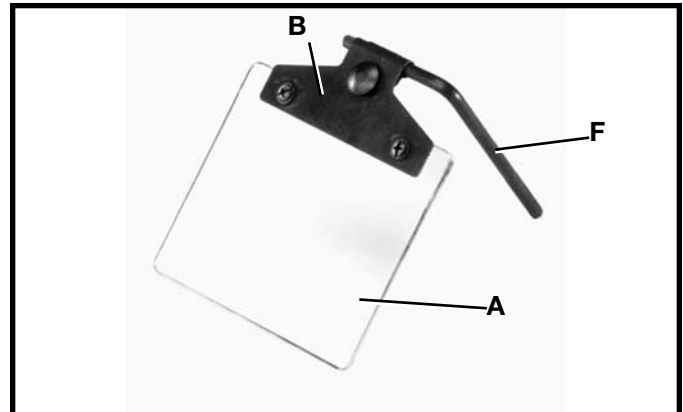


Fig. 5

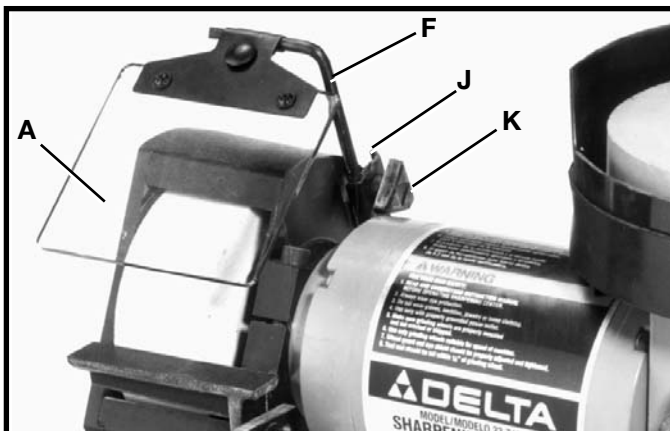


Fig. 6



## ASSEMBLING AND ADJUSTING TOOL REST FOR DRY WHEEL

1. Assemble dry wheel tool rest (A) Fig. 7, to mounting arm (B) using flat washer (C), lockwasher (D) and 5/8" long hex head screw (E). Place a lockwasher then a flat washer on the hex head screw, then assemble tool rest to mounting arm as shown in Fig. 8.

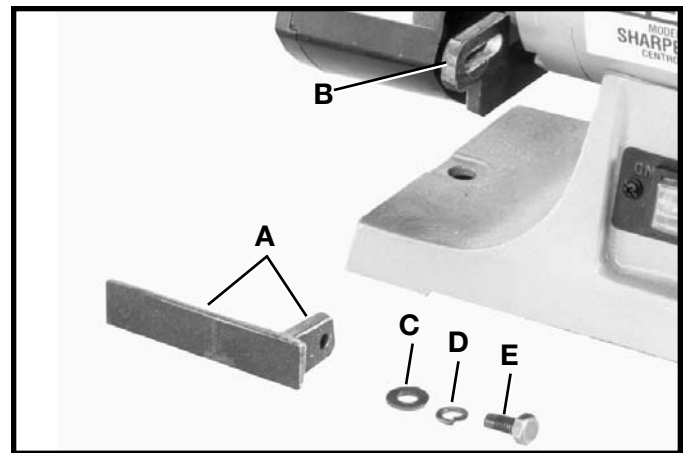


Fig. 7

2. Figure 8, illustrates dry wheel tool rest (A) assembled to mounting arm (B). Wrench (F) supplied, is used to tighten screw (E).
3. The tool rest (A) Fig. 8, is adjustable so the inside edge of the tool rest can be positioned as close to the grinding wheel (H) as possible, giving maximum support to the piece that is being ground. Always maintain a distance of 1/8" or less between the grinding wheel (H) and inside edge of tool rest (A). As the grinding wheel wears down to a smaller diameter, readjust the tool rest closer to the wheel by loosening screw (E), moving tool rest (A) inward and tightening screw (E) using wrench (F). The tool rest (A) can also be rotated to any desired angle by loosening screw (E), rotating tool rest (A) and tightening screw. Rotate dry wheel (H) making certain wheel does not contact tool rest (A).

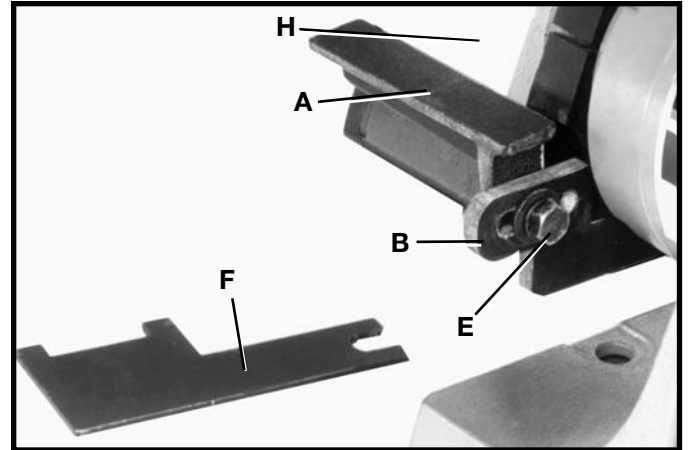


Fig. 8

## WRENCH HOLDING BRACKET

1. Wrench (D) Fig. 10, can be stored in bracket (A) when not in use.

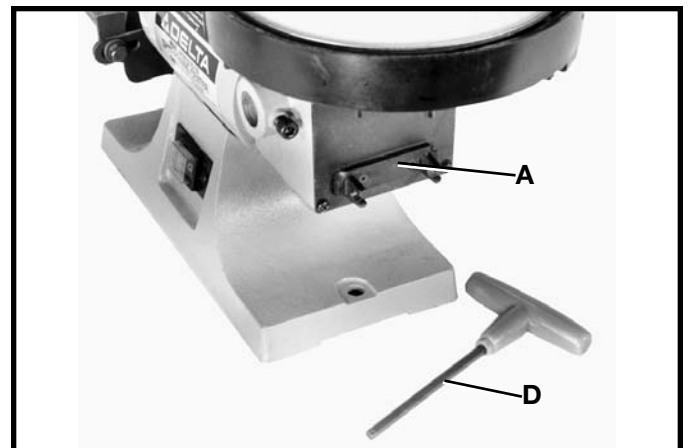


Fig. 10

## ASSEMBLING AND ADJUSTING TOOL AND CHISEL HOLDER

1. Take the tool and chisel holder base and insert its mounting post (A) Fig. 11, into hole (B) in the front of the machine, and tighten screw (C) against groove (E) of mounting post. Use the provided wrench (D) Fig. 10.
2. Loosen screw (C) Fig. 13, move tool and chisel holder to desired position and tighten screw (C).
3. Place flat washer, spring and another flat washer onto the tilting screw knob. Thread tilting screw and spring assembly (H) Fig. 13, into hole in post. NOTE: End of screw (H) contacts lever (R) and this screw is used to tilt the tool rest base (J).
4. To level tool and chisel holder base (J) Fig. 13, with the set grinding wheel (G), loosen screw (F) with supplied wrench, and turn complete base assembly (E) until tool and chisel holder base (J) is level with wet grinding wheel (G), and tighten screw (F).
5. To adjust the height of tool and chisel holder base assembly (E) Fig. 14, loosen screw (S) and turn adjustment knob (T). Tighten screw (S) after height adjustment is made.

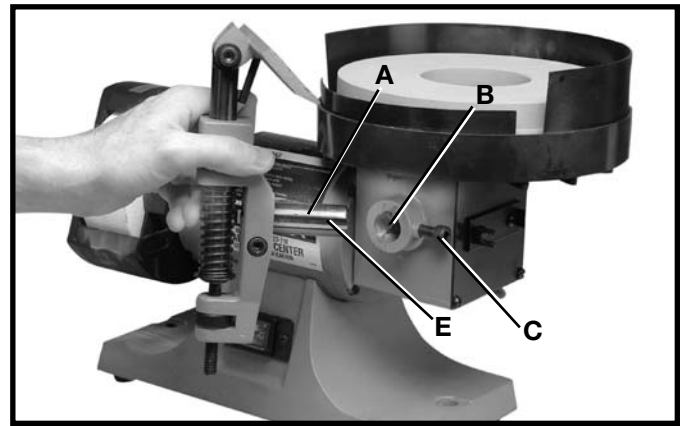


Fig. 11

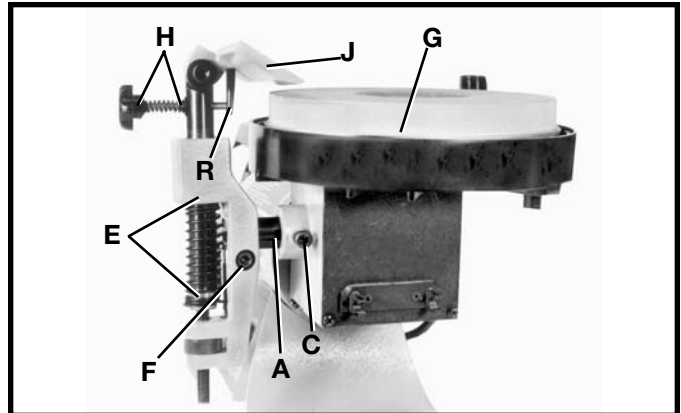


Fig. 13

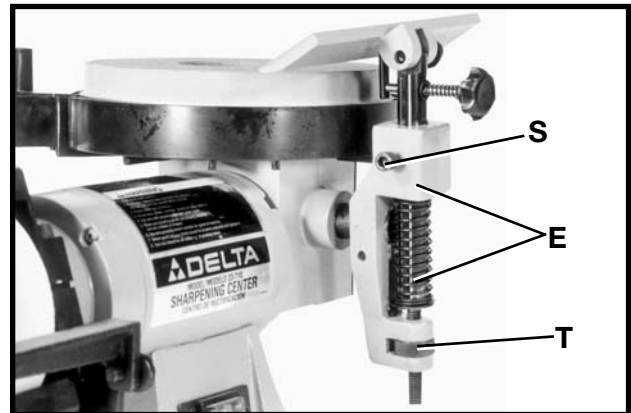


Fig. 14

6. Place tool and chisel holder (K) Fig. 15, in position on base (J).

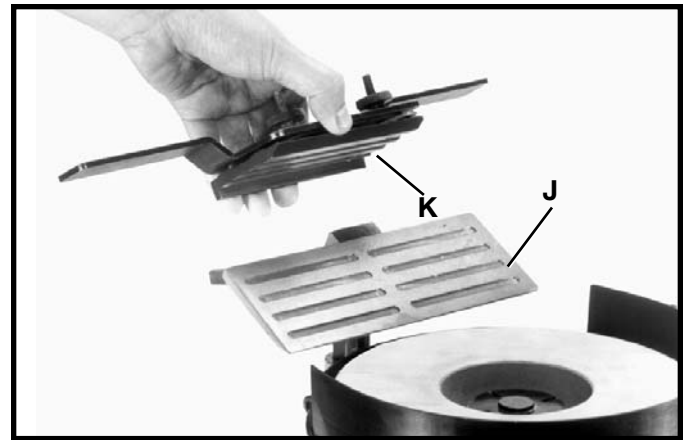


Fig. 15

7. Fig. 16, illustrates tool and chisel holder (K) in position on tool rest base (J).

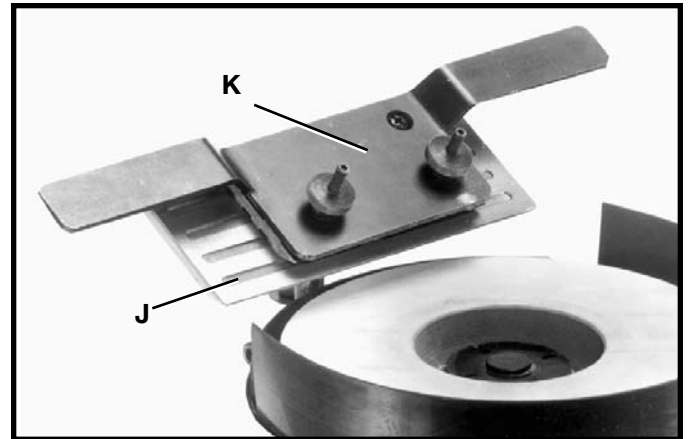


Fig. 16

8. To raise or lower the tool and chisel holder assembly (E) Fig. 17, refer to STEP 5.
9. To tilt the tool and chisel holder (J) Fig.17, to conform with the angle of the tool to be sharpened, loosen set screw (N) and turn knob (H) as necessary. After angle is set, tighten set screw (N).
10. To move the tool and chisel holder (J) Fig. 17, in or out, loosen set screw (C), and slide assembly (E) in or out as desired. After adjustment, tighten screw (C).
11. To level tool and chisel holder base (J) Fig. 17, with the wet grinding wheel (G), loosen screw (F) with supplied wrench, and rotate complete base assembly (E) until tool and chisel holder base (J) is level with wet grinding wheel (G), and tighten screw (F).

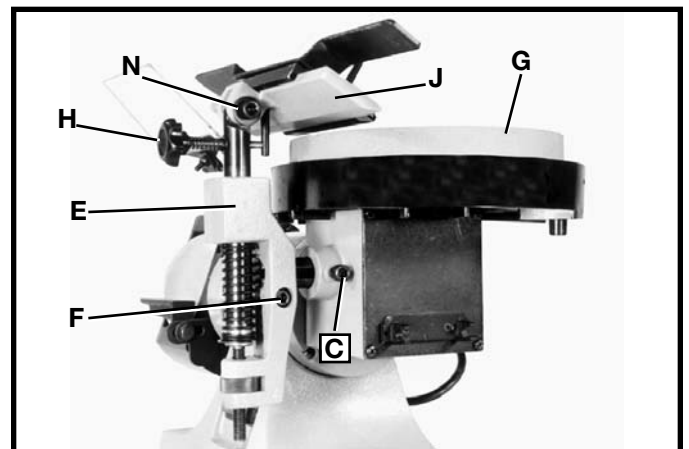


Fig. 17

## ASSEMBLING AND ADJUSTING WATER TANK

1. Insert stem (A) Fig. 18, of water tank (B) into holder (C) as shown.

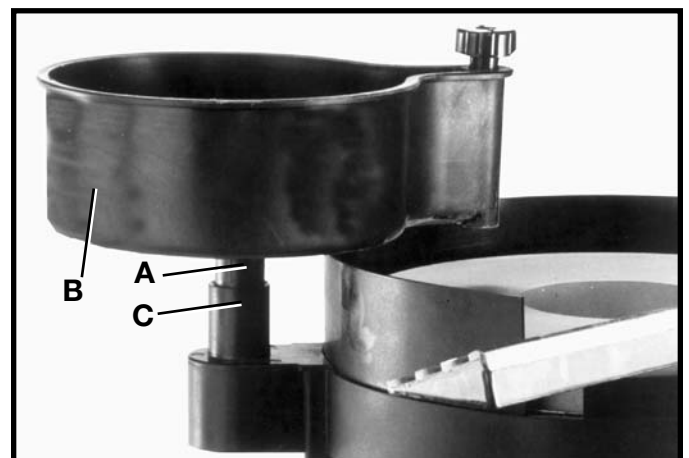


Fig. 18

2. The water tank (B) Fig. 19, can be rotated to direct the water from the spigot (D) onto the grinding wheel. The ideal position of the spigot (D) would be to the center (C) of the grinding wheel.
3. To control the flow of water from the spigot (D) Fig. 19, turn knob (E).

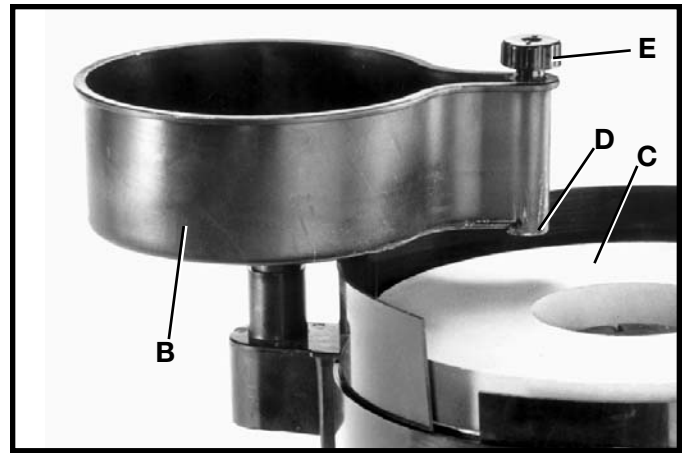


Fig. 19

4. A drain (F) Fig. 20, is provided underneath the grinding wheel housing to dispose of water. Place a can or suitable container underneath the drain (F).

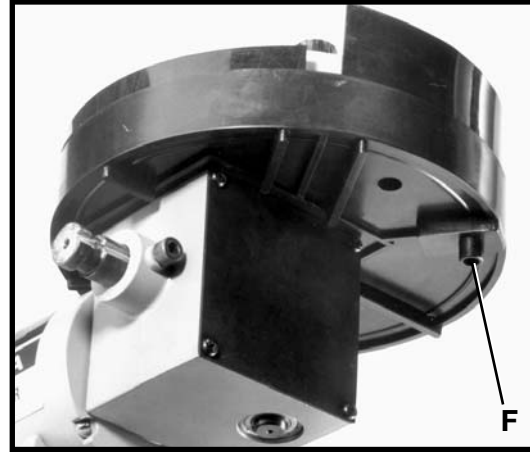


Fig. 20

## FASTENING SHARPENING CENTER TO SUPPORTING SURFACE

If during operation there is any tendency for the machine to tip over, slide or "walk" on the supporting surface, the machine must be secured to the supporting surface. Two holes, (A) Fig. 9, are provided for this purpose.

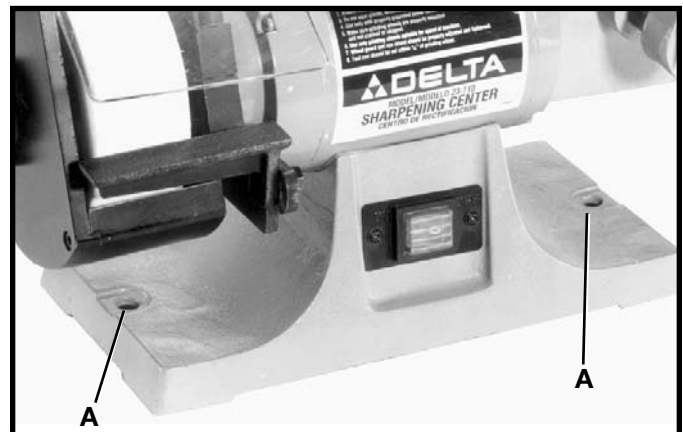


Fig. 21

# OPERATION

## USING TOOL AND CHISEL HOLDER

The tool and chisel holder is supplied as standard equipment with your sharpening center and is ideal for sharpening wood chisels, plane irons, some lathe turning tools, etc. To use the tool and chisel holder, proceed as follows.

1. Loosen the two clamp knobs (A) Figs. 25, 26 and 27, and insert the tool or chisel between the clamp as shown, making sure the edge of the tool or chisel is against the inside of the protractor gage (B). Fig. 25 illustrates a plane iron; Fig. 26 illustrates a wood chisel; and Fig. 27 illustrates a lathe turning tool inserted between the clamp of the tool and chisel holder. Then tighten the two clamp knobs (A). Adjust the protractor gage (B) so that the cutting edge of the tool to be sharpened is the correct angle for the grinding wheel. Loosen screw (C) Fig. 27, and adjust the protractor gage (B) as shown. Tighten screw (C) after angle is obtained.
2. Place the complete tool and chisel holder assembly (D) Fig. 28, on the tool rest base (E) as shown. Adjustment of the tool rest is explained in section "ASSEMBLING AND ADJUSTING TOOL AND CHISEL HOLDER."
3. Figure 29, illustrates a plane iron being sharpened using the tool and chisel holder (D) supplied with the machine.

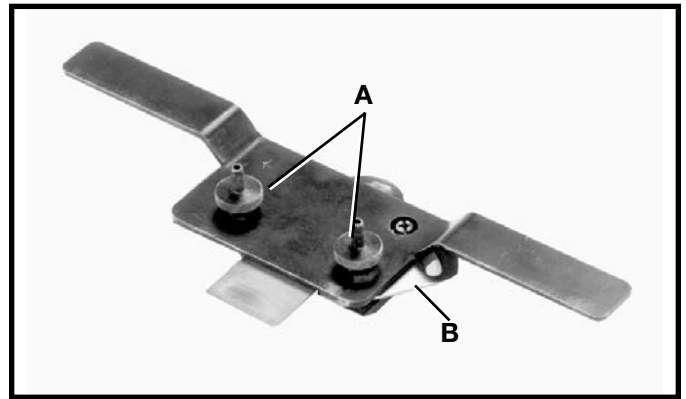


Fig. 25

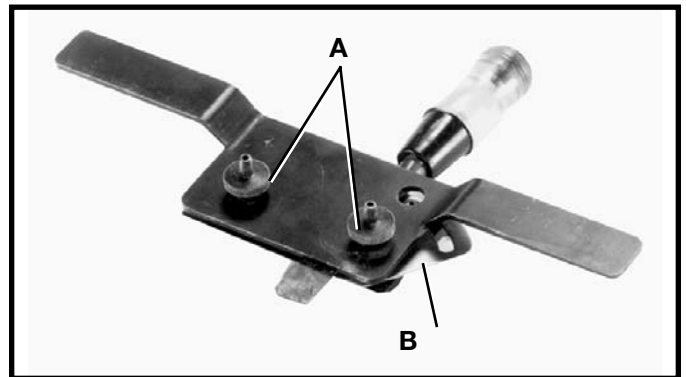


Fig. 26

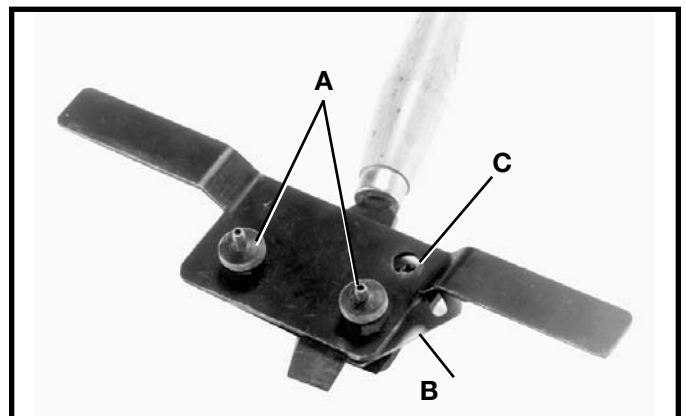


Fig. 27

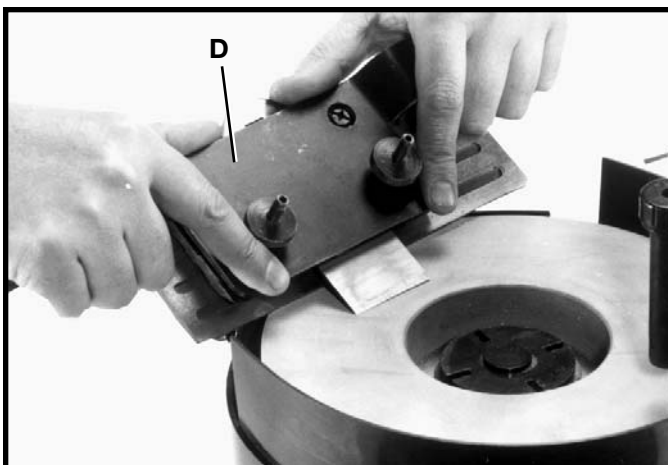


Fig. 29

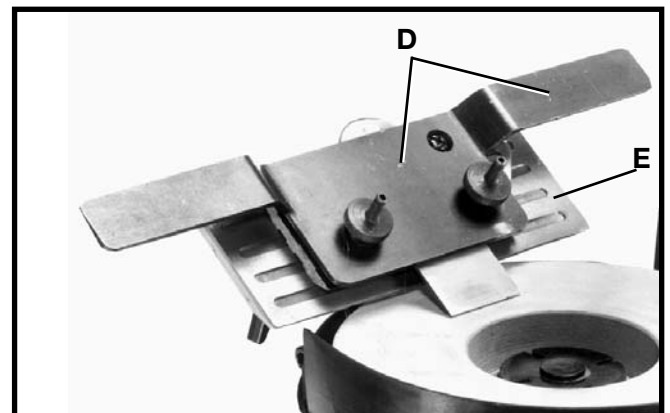


Fig. 28

## STARTING AND STOPPING MACHINE

The switch (A) Fig. 30, is located on the front of the grinder base inside a water resistant enclosure. To turn the machine "ON" push the left hand portion of the switch. To turn the machine "OFF" push the right hand portion of the switch.

## ADJUSTING SPLASH GUARDS

Two adjustable splash guards (A) and (B) Fig. 31, are provided with your sharpening center. The height of the front splash guard (A) should be adjusted so the top edge of the guard (A) is slightly below the grinding surface (C) of the wheel. The rear splash guard should be positioned high, as shown. To adjust the splash guards, move the guards manually.

## USING TOOL AND CHISEL HOLDER ON DRY WHEEL

When sharpening chisels, plane irons, etc., that have deep nicks, the cutting edge of the tool can first be rough ground on the dry grinding wheel before fine sharpening is performed on the wet wheel. To use the tool and chisel holder on the dry wheel, proceed as follows:

1. Remove the dry wheel tool rest (A) Fig. 32, and eye-shield (B).
2. Loosen screw (C) Fig. 33, and rotate wheel guard (D) to the rear, as shown in Fig. 34, and tighten screw (C).

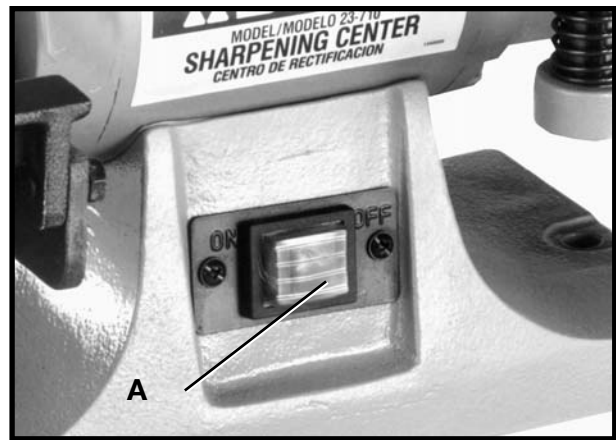


Fig. 30

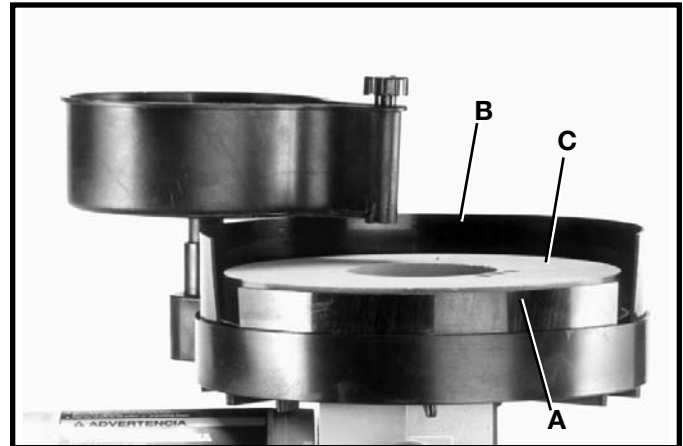


Fig. 31

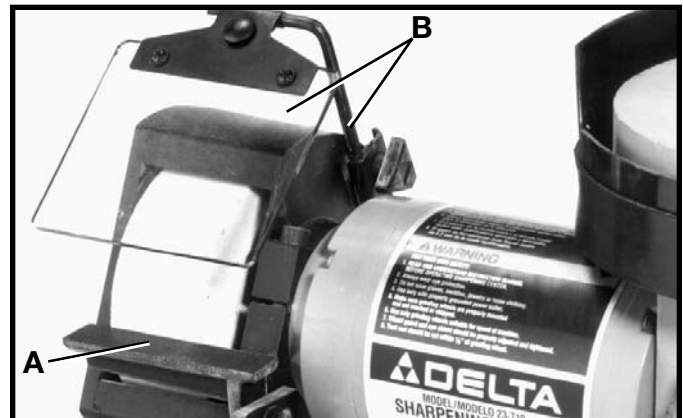


Fig. 32



Fig. 33

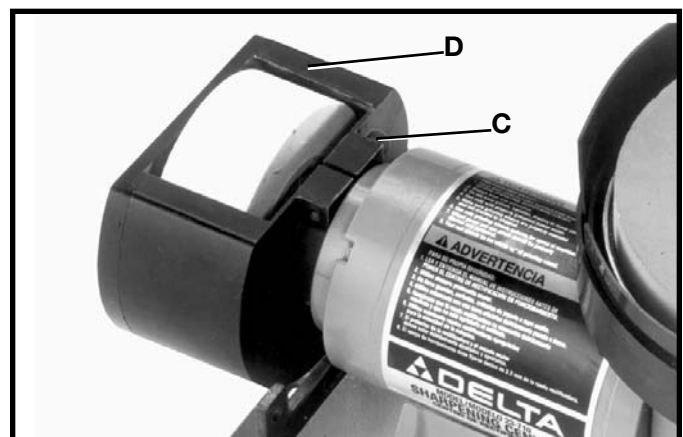


Fig. 34



3. Remove the tool rest and mounting post (E) Fig. 35, from the wet wheel side of the machine and insert post of tool rest assembly into hole (F). Tighten screw (G) into groove of mounting post. All controls and adjustments for the tool rest are explained in the section "ASSEMBLING AND ADJUSTING TOOL REST AND CHISEL HOLDER."
4. Figure 36, illustrates a rough grinding operation on a plane iron (H) using the dry wheel.

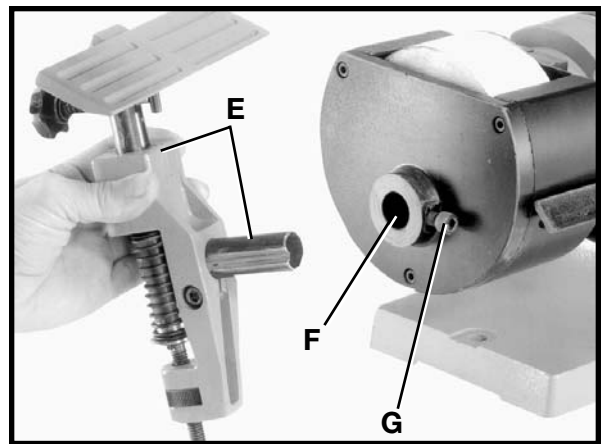


Fig. 35

## ASSEMBLING OPTIONAL ACCESSORY 23-715 SLIDING TOOL REST TO WET WHEEL

The 23-715 Sliding Tool Rest is available as an accessory for your sharpening center and is especially suited for sharpening jointer and planer knives. To assemble the 23-715 Sliding Tool Rest, proceed as follows:

1. Loosen screw (A) Fig. 37, and remove tool and chisel holder assembly (B) as shown.
2. Assemble sliding table tool rest base (E) Fig. 38, to mounting post (A) and tighten screw (F) against groove (G) in mounting post.
3. Place flat washer, spring and another flat washer onto the tilting screw knob included with the 23-715. Thread tilting screw and spring assembly (H) Fig. 39, into hole in left post.

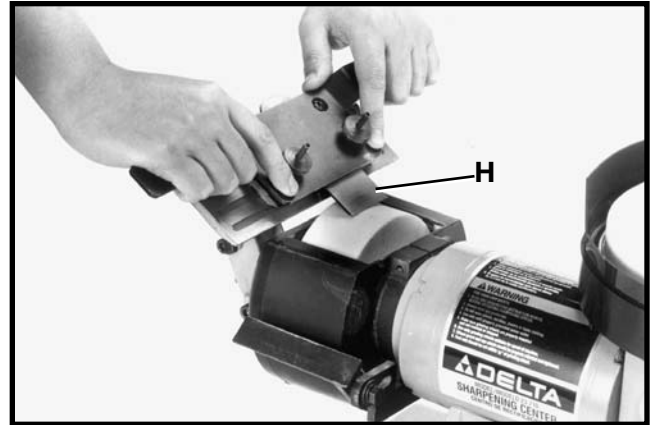


Fig. 36

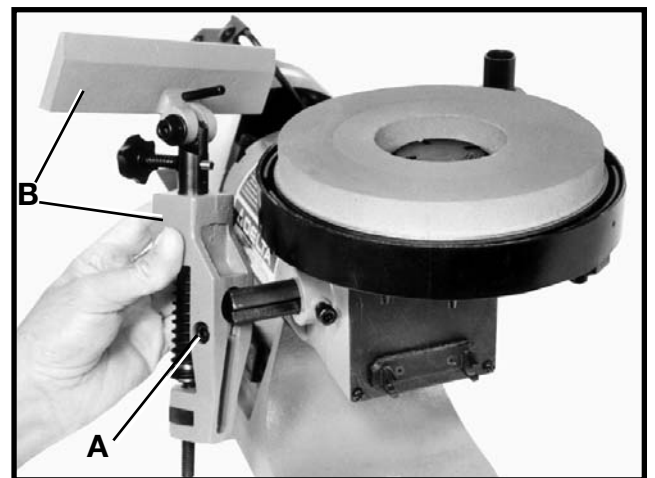


Fig. 37

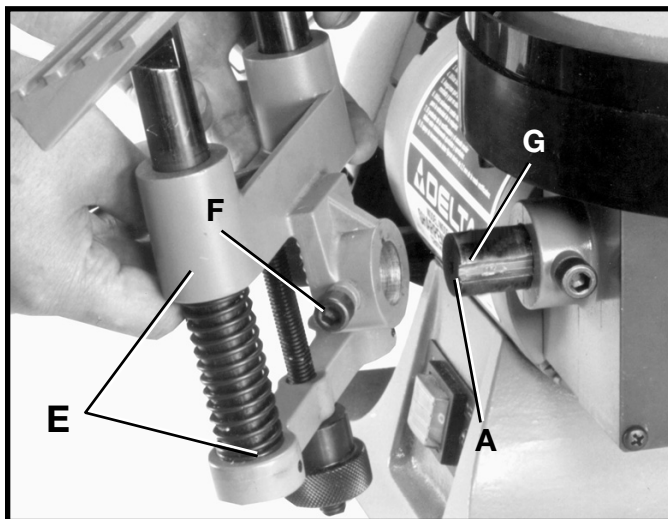


Fig. 38

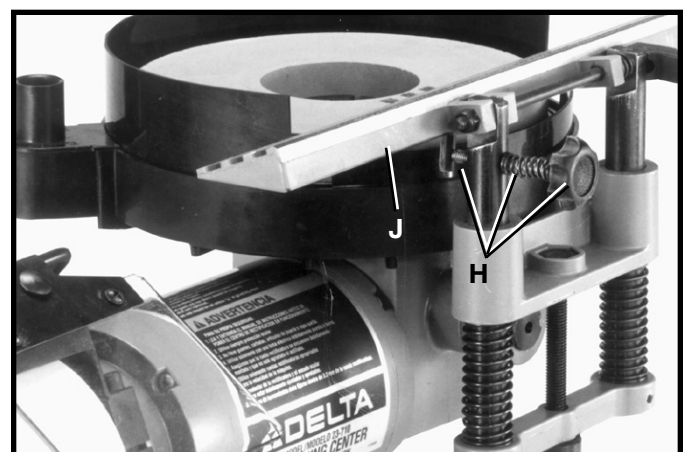


Fig. 39

4. Place sliding tool rest (K) Fig. 40, in position on base (J).

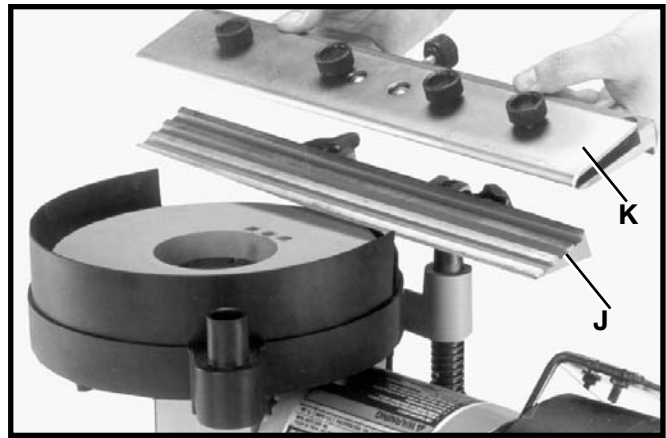


Fig. 40

5. Fig. 41, illustrates sliding tool rest (K) in position on tool rest base (J).

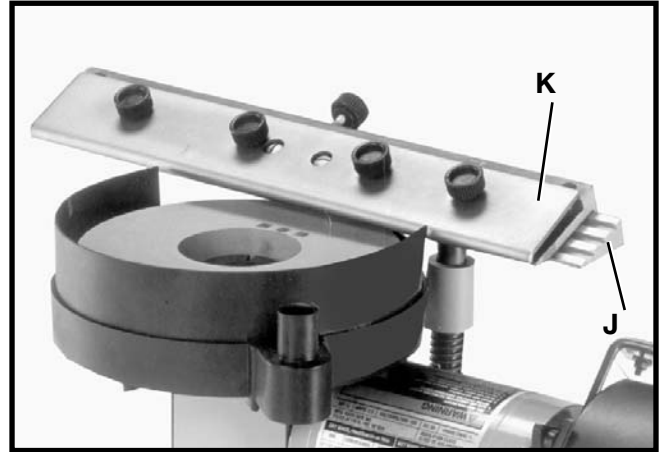


Fig. 41

6. To level sliding tool rest (K) Fig. 42, with the wet grinding wheel, loosen screw (L), rotate complete tool rest base (E) right or left until tool rest (K) is level with the wet grinding wheel and tighten screw (L).

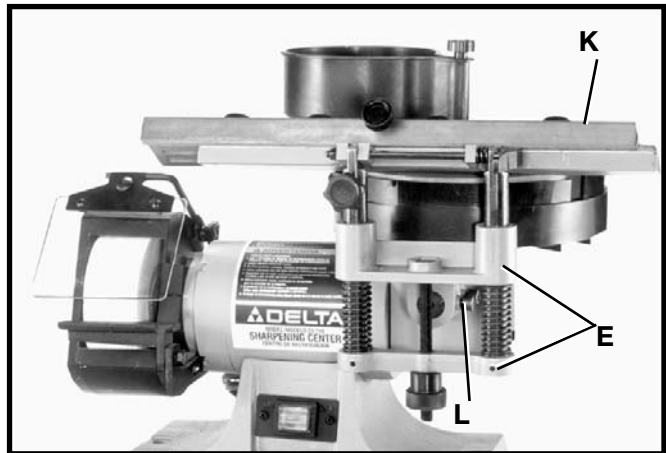


Fig. 42

7. To raise sliding tool rest (K) Fig. 43, unlock two posts (M) by moving clamp lever (N) to the right, as shown. Rotate knob (O) Fig. 44, clockwise to raise, or counterclockwise to lower the tool rest (K). After the height of tool rest (K) is set, move clamp lever (N) to the left in the locked position.

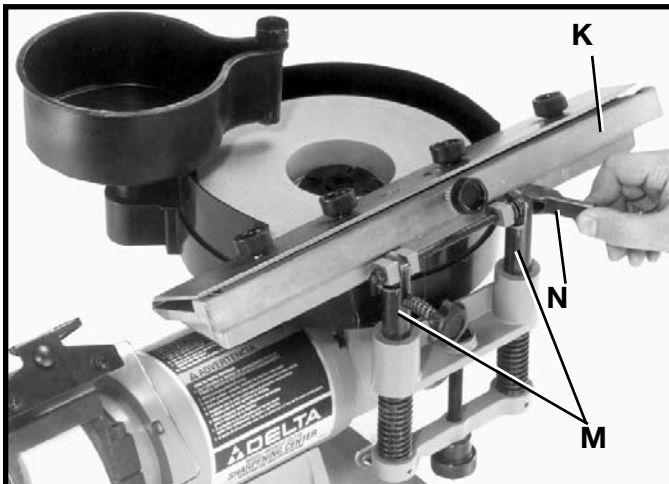


Fig. 43

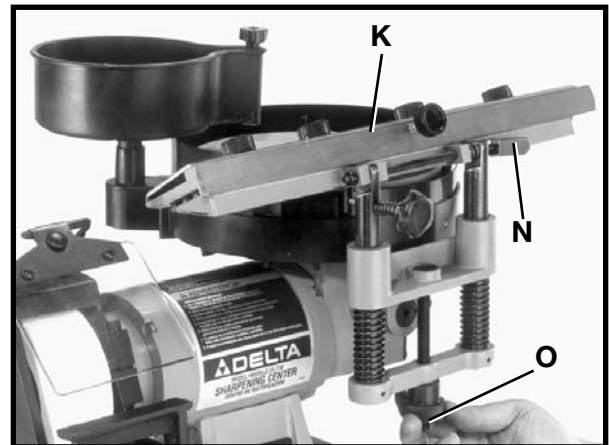


Fig. 44

8. To tilt the sliding tool rest (K) Fig. 45, to conform with the angle of the knife to be sharpened, turn the tool rest tilting knob (P).

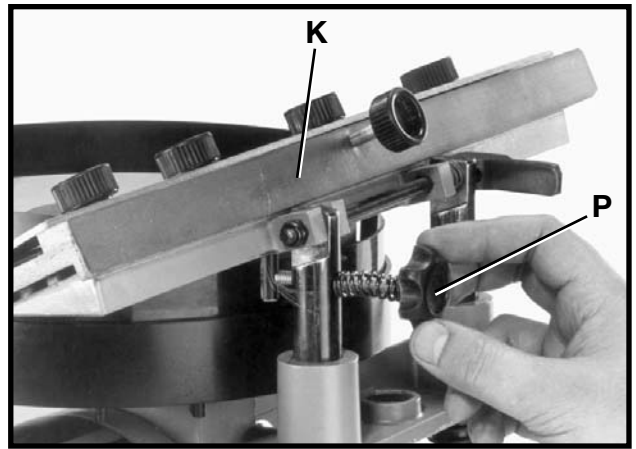


Fig. 45

## USING ACCESSORY 23-715 SLIDING TOOL REST ON DRY WHEEL

When sharpening planer or jointer knives that have deep nicks, the knives can first be rough ground on the dry grinding wheel, using the sliding tool rest, before fine sharpening is performed on the wet wheel. To use the sliding tool rest on the dry wheel, proceed as follows:

1. Remove the dry wheel tool rest (A) Fig. 46, and eyeshield (B).

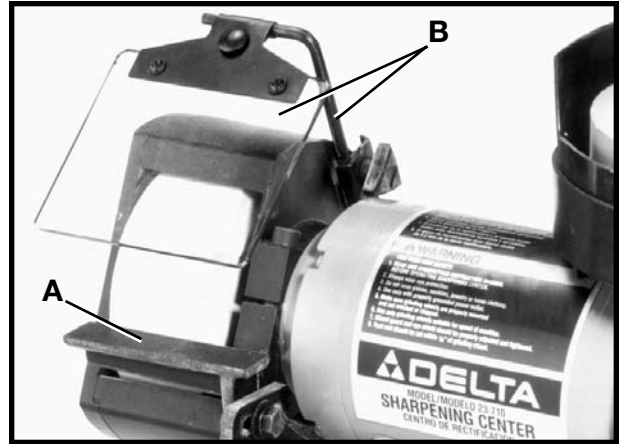


Fig. 46



Fig. 47

2. Loosen screw (C) Fig. 47, and rotate wheel guard (D) to the rear, as shown in Fig. 48, and tighten screw (C).

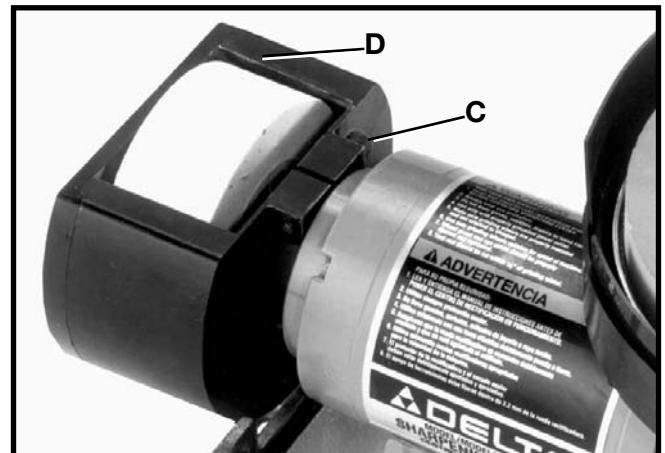


Fig. 48

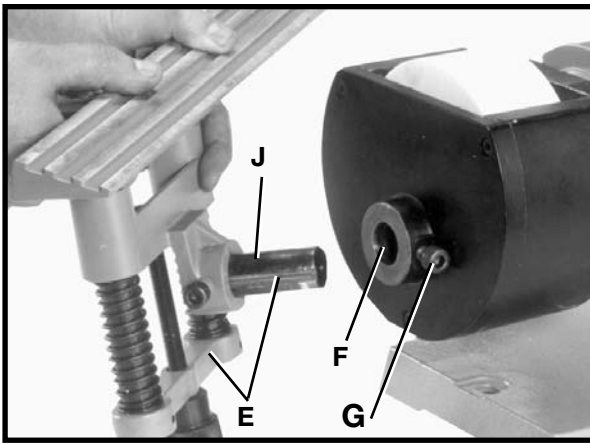


Fig. 49

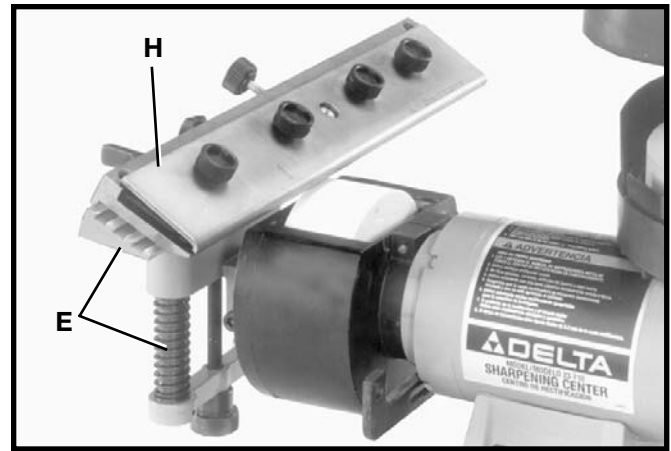


Fig. 50

3. Remove sliding tool rest and mounting post (E) Fig. 49, from the wet wheel side of the machine and insert post of tool rest assembly into hole (F). Tighten screw (G) into groove (J) of mounting post (E).
4. Fig. 50, illustrates the sliding tool rest (E) assembled to the dry wheel side of the machine with the knife holder (H) positioned on the tool rest. All controls and adjustments for the sliding tool rest are explained in the section of this manual titled "ASSEMBLING ACCESSORY 23-715 SLIDING TOOL REST TO WET WHEEL."
5. Fig. 51, illustrates a rough grinding operation on a planer knife using the dry wheel.



Fig. 51

## USING THE TOOL REST WITH PLANER OR JOINTER KNIVES

**⚠ CAUTION** CARE MUST BE TAKEN WHEN HANDLING PLANER OR JOINTER KNIVES, AS THE CUTTING EDGES ARE VERY SHARP. WEAR PROTECTIVE GLOVES WHEN HANDLING THE KNIVES.

1. Loosen four lock knobs (A) Fig. 52 and two screws (E) and carefully slide knife (B) between the top and bottom pieces (C) and (D) of the sliding tool rest. It is important that the bevel edge of the knife (B) is in the down position. Also, be sure the back of the knife is pushed in so it sits against the knife adjustment bar inside the tool rest.
2. Make sure knife (B) Fig. 52, protrudes out from the top and bottom pieces (C) and (D) of the sliding tool rest at least 5/16". If it does not, rotate adjusting knob (F) Fig. 50, clockwise to move the knife outward or counterclockwise to move the knife inward. When moving the knife inward, carefully push the knife (B) inward with a piece of scrap wood while turning the knob (F) counterclockwise. When you are certain the knife protrudes 5/16" outward from the sliding tool rest, tighten two screws (E) and four knobs (A).

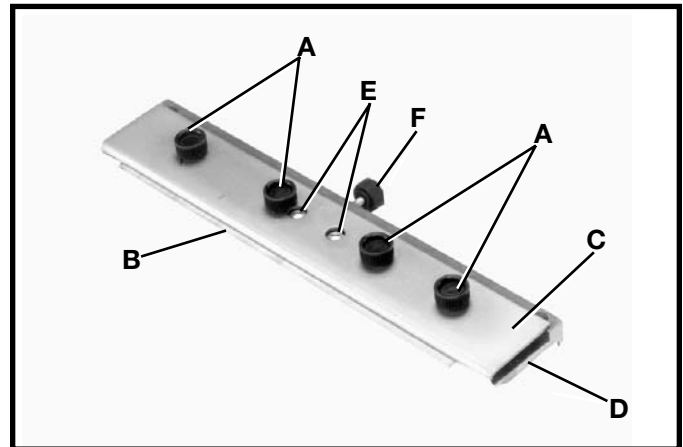


Fig. 52

3. Place sliding tool rest (G) Fig. 53, onto the tool rest base (H) as shown.

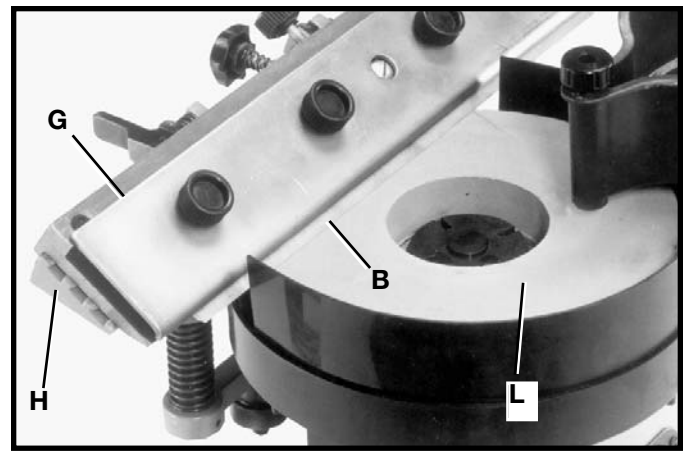


Fig. 53

4. Adjust the height of tool rest base (H) Fig. 54, by moving locking lever (J) to the right and turning raising and lowering knob (K) until knife (B) Fig. 53, lightly touches grinding wheel (L). Then move locking lever (J) Fig. 54 to the left to lock in place.
5. Check to see if the knife (B) Fig. 53, is parallel with grinding wheel (L) at both ends when the knife is just contacting the wheel.

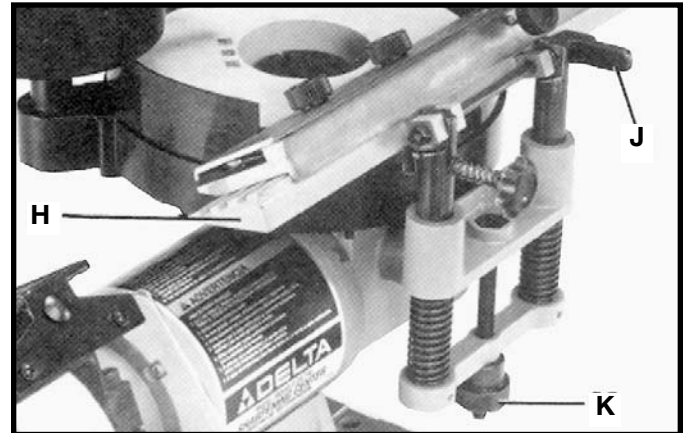


Fig. 54

6. If the knife (B) Fig. 53, is not parallel with the grinding wheel, loosen screw (M) Fig. 55, and rotate tool rest base (N) until knife is parallel with grinding wheel. Then tighten screw (M) Fig. 55.

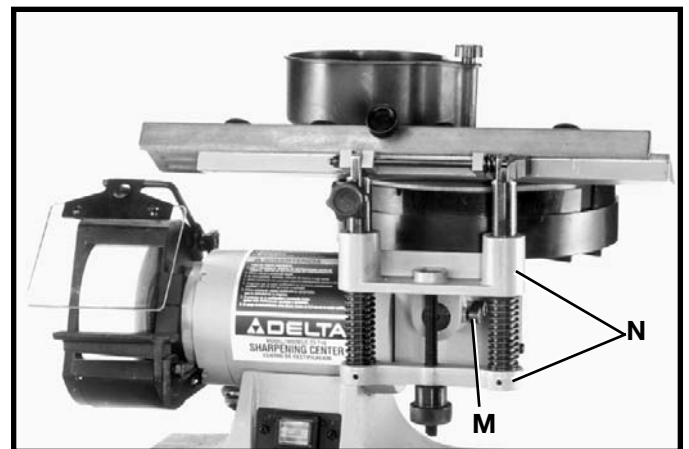


Fig. 55

7. Check to see if the bevel edge of the knife (B) Fig. 56, is flat on the grinding wheel. If an adjustment is necessary, turn tilting screw (O) Fig. 56, until the edge of the knife is flat on the grinding wheel.

8. Fig. 57, illustrates a typical grinding operation of a jointer or planer knife.

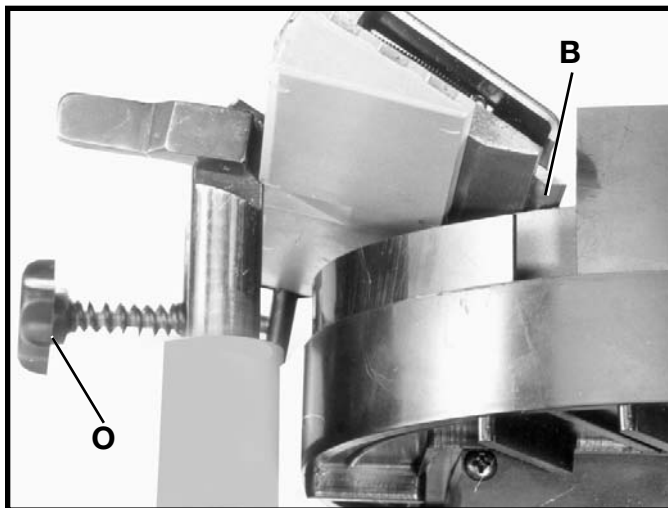


Fig. 56

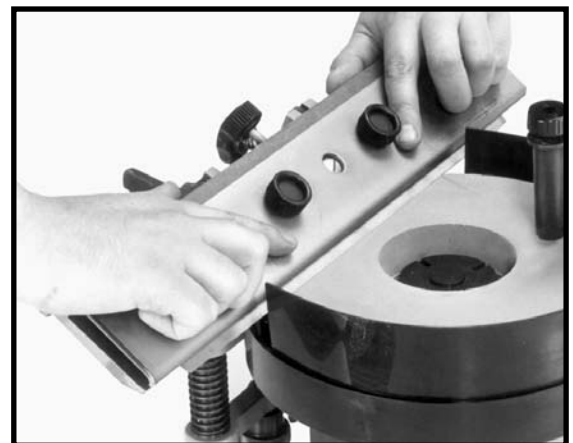


Fig. 57



## REPLACING WET GRINDING WHEEL

**⚠ WARNING** DISCONNECT THE MACHINE FROM THE POWER SOURCE.

1. Using the wrench (A) Fig. 58, supplied, remove the wheel locking nut (B).
2. Remove and replace the wet wheel (C) as shown in Fig. 59.

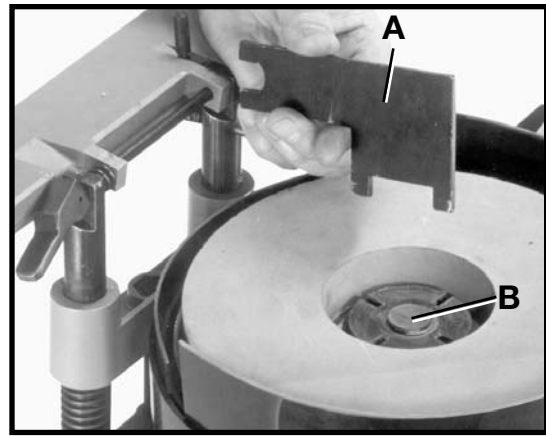


Fig. 58

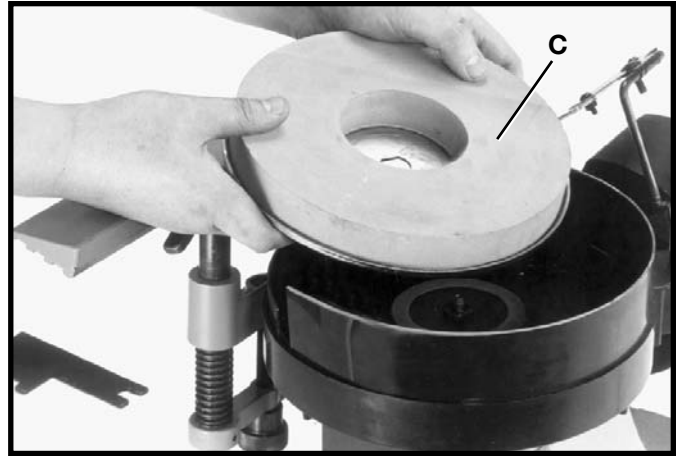


Fig. 59

## REPLACING DRY GRINDING WHEEL

**⚠ WARNING** DISCONNECT MACHINE FROM THE POWER SOURCE.

1. Remove three screws (A) Fig. 60, and side cover (B).
2. Using wrench (C) Fig. 61, supplied, hold motor shaft on inside of grinding wheel (D) to keep shaft from turning and remove wheel nut (E). Use a 13/16 wrench (not provided).
3. Remove grinding wheel (D), as shown in Fig. 62.

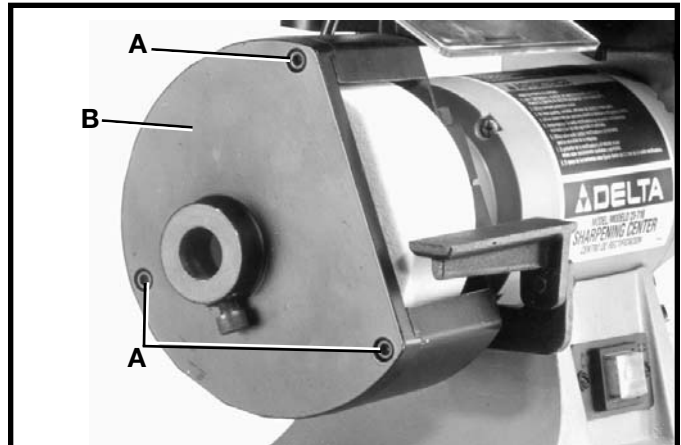


Fig. 60

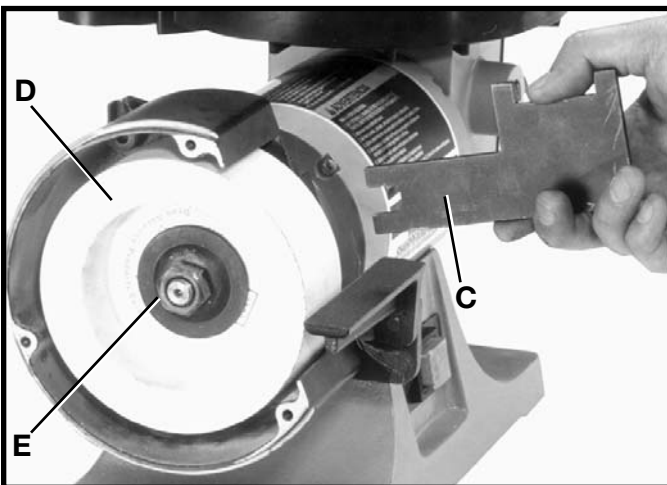


Fig. 61

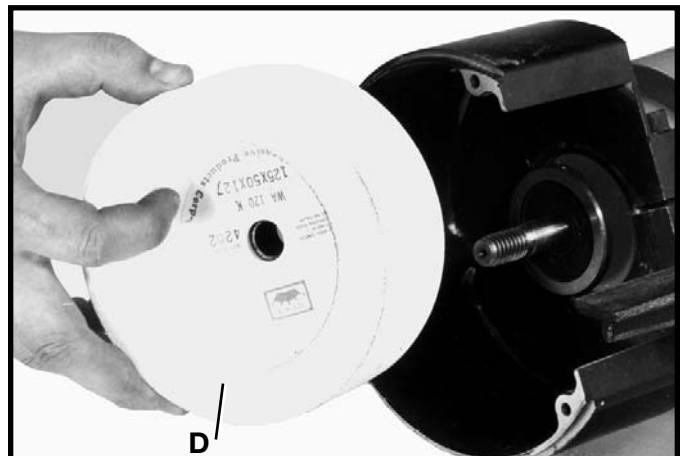


Fig. 62



## DRESSING THE DRY GRINDING WHEEL

A stick type dresser (A) Fig. 63, is supplied with your sharpening center to dress the dry grinding wheel. Bring the dresser stick (A) forward on the tool rest until it just touches the high point of the face of the wheel and dress the wheel by moving the dresser stick back and forth. Repeat this operation until the face of the wheel is clean and the corners of the wheel are square.

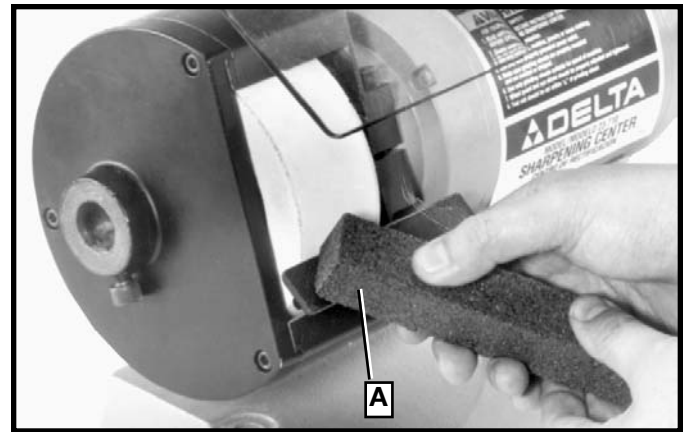


Fig. 63

## MAINTENANCE

### KEEP MACHINE CLEAN

Periodically blow out all air passages with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

**⚠ WARNING** Wear ANSI Z87.1 safety glasses while using compressed air.

### FAILURE TO START

Should your machine fail to start, check to make sure the prongs on the cord plug are making good contact in the outlet. Also, check for blown fuses or open circuit breakers in the line.

## ACCESSORIES

A complete line of accessories is available from your Delta Supplier, Porter-Cable • Delta Factory Service Centers, and Delta Authorized Service Stations. Please visit our Web Site [www.deltamachinery.com](http://www.deltamachinery.com) for a catalog or for the name of your nearest supplier.

**⚠ WARNING** Since accessories other than those offered by Delta have not been tested with this product, use of such accessories could be hazardous. For safest operation, only Delta recommended accessories should be used with this product.



## PARTS, SERVICE OR WARRANTY ASSISTANCE

All Delta Machines and accessories are manufactured to high quality standards and are serviced by a network of Porter-Cable • Delta Factory Service Centers and Delta Authorized Service Stations. To obtain additional information regarding your Delta quality product or to obtain parts, service, warranty assistance, or the location of the nearest service outlet, please call 1-800-223-7278 (In Canada call 1-800-463-3582).



### Two Year Limited New Product Warranty

Delta will repair or replace, at its expense and at its option, any new Delta machine, machine part, or machine accessory which in normal use has proven to be defective in workmanship or material, provided that the customer returns the product prepaid to a Delta factory service center or authorized service station with proof of purchase of the product within two years and provides Delta with reasonable opportunity to verify the alleged defect by inspection. For all refurbished Delta product, the warranty period is 180 days. Delta may require that electric motors be returned prepaid to a motor manufacturer's authorized station for inspection and repair or replacement. Delta will not be responsible for any asserted defect which has resulted from normal wear, misuse, abuse or repair or alteration made or specifically authorized by anyone other than an authorized Delta service facility or representative. Under no circumstances will Delta be liable for incidental or consequential damages resulting from defective products. This warranty is Delta's sole warranty and sets forth the customer's exclusive remedy, with respect to defective products; all other warranties, express or implied, whether of merchantability, fitness for purpose, or otherwise, are expressly disclaimed by Delta.

## NOTES

## PORTER-CABLE • DELTA SERVICE CENTERS (CENTROS DE SERVICIO DE PORTER-CABLE • DELTA)

Parts and Repair Service for Porter-Cable • Delta Machinery are Available at These Locations  
(Obtenga Refaccion de Partes o Servicio para su Herramienta en los Siguienes Centros de Porter-Cable • Delta)

### ARIZONA

Tempe 85282 (Phoenix)  
2400 West Southern Avenue  
Suite 105  
Phone: (602) 437-1200  
Fax: (602) 437-2200

### CALIFORNIA

Ontario 91761 (Los Angeles)  
3949A East Guasti Road  
Phone: (909) 390-5555  
Fax: (909) 390-5554

San Diego 92111  
7638 Clairemnot Blvd.  
Phone: (858) 277-9595  
Fax: (858) 277-9696

San Leandro 94577 (Oakland)  
3039 Teagarden Street  
Phone: (510) 357-9762  
Fax: (510) 357-7939

### COLORADO

Arvada 80003 (Denver)  
8175 Sheridan Blvd., Unit S  
Phone: (303) 487-1809  
Fax: (303) 487-1868

### FLORIDA

Davie 33314 (Miami)  
4343 South State Rd. 7 (441)  
Unit #107  
Phone: (954) 321-6635  
Fax: (954) 321-6638

Tampa 33609  
4538 W. Kennedy Boulevard  
Phone: (813) 877-9585  
Fax: (813) 289-7948

### GEORGIA

Forest Park 30297 (Atlanta)  
5442 Frontage Road,  
Suite 112  
Phone: (404) 608-0006  
Fax: (404) 608-1123

### ILLINOIS

Addison 60101 (Chicago)  
400 South Rohlwing Rd.  
Phone: (630) 424-8805  
Fax: (630) 424-8895

Woodridge 60517 (Chicago)  
2033 West 75th Street  
Phone: (630) 910-9200  
Fax: (630) 910-0360

### MARYLAND

Elkridge 21075 (Baltimore)  
7397-102 Washington Blvd.  
Phone: (410) 799-9394  
Fax: (410) 799-9398

### MASSACHUSETTS

Franklin 02038 (Boston)  
Franklin Industrial Park  
101E Constitution Blvd.  
Phone: (508) 520-8802  
Fax: (508) 528-8089

### MICHIGAN

Madison Heights 48071 (Detroit)  
30475 Stephenson Highway  
Phone: (248) 597-5000  
Fax: (248) 597-5004

### MINNESOTA

Minneapolis 55429  
5522 Lakeland Avenue North  
Phone: (763) 561-9080  
Fax: (763) 561-0653

### MISSOURI

North Kansas City 64116  
1141 Swift Avenue  
Phone: (816) 221-2070  
Fax: (816) 221-2897

St. Louis 63119  
7574 Watson Road  
Phone: (314) 968-8950  
Fax: (314) 968-2790

### NEW YORK

Flushing 11365-1595 (N.Y.C.)  
175-25 Horace Harding Expwy.  
Phone: (718) 225-2040  
Fax: (718) 423-9619

### NORTH CAROLINA

Charlotte 28270  
9129 Monroe Road, Suite 115  
Phone: (704) 841-1176  
Fax: (704) 708-4625

### OHIO

Columbus 43214  
4560 Indianola Avenue  
Phone: (614) 263-0929  
Fax: (614) 263-1238

Cleveland 44125  
8001 Sweet Valley Drive  
Unit #19  
Phone: (216) 447-9030  
Fax: (216) 447-3097

### OREGON

Portland 97230  
4916 NE 122 nd Ave.  
Phone: (503) 252-0107  
Fax: (503) 252-2123

### PENNSYLVANIA

Willow Grove 19090  
(Philadelphia)  
520 North York Road  
Phone: (215) 658-1430  
Fax: (215) 658-1433

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Carrollton 75006 (Dallas)  
1300 Interstate 35 N, Suite 112  
Phone: (972) 446-2996  
Fax: (972) 446-8157

Houston 77043  
4321 Sam Houston Parkway,  
West  
Suite 180  
Phone: (713) 983-9910  
Fax: (713) 983-6645

### WASHINGTON

Auburn 98001(Seattle)  
3320 West Valley HWY, North  
Building D, Suite 111  
Phone: (253) 333-8353  
Fax: (253) 333-9613

Authorized Service Stations are located in many large cities. Telephone **800-438-2486** or **731-541-6042** for assistance locating one. Parts and accessories for Porter-Cable-Delta products should be obtained by contacting any Porter-Cable-Delta Distributor, Authorized Service Center, or Porter-Cable-Delta Factory Service Center. If you do not have access to any of these, call **800-223-7278** and you will be directed to the nearest Porter-Cable-Delta Factory Service Center. Las Estaciones de Servicio Autorizadas están ubicadas en muchas grandes ciudades. Llame al **800-438-2486** ó al **731-541-6042** para obtener asistencia a fin de localizar una. Las piezas y los accesorios para los productos Porter-Cable-Delta deben obtenerse poniéndose en contacto con cualquier distribuidor Porter-Cable-Delta, Centro de Servicio Autorizado o Centro de Servicio de Fábrica Porter-Cable-Delta. Si no tiene acceso a ninguna de estas opciones, llame al **800-223-7278** y le dirigirán al Centro de Servicio de Fábrica Porter-Cable-Delta más cercano.

## CANADIAN PORTER-CABLE • DELTA SERVICE CENTERS

### ALBERTA

Bay 6, 2520-23rd St. N.E.  
Calgary, Alberta  
T2E 8L2  
Phone: (403) 735-6166  
Fax: (403) 735-6144

### BRITISH COLUMBIA

8520 Baxter Place  
Burnaby, B.C.  
V5A 4T8  
Phone: (604) 420-0102  
Fax: (604) 420-3522

### MANITOBA

1699 Dublin Avenue  
Winnipeg, Manitoba  
R3H 0H2  
Phone: (204) 633-9259  
Fax: (204) 632-1976

### ONTARIO

505 Southgate Drive  
Guelph, Ontario  
N1H 6M7  
Phone: (519) 767-4132  
Fax: (519) 767-4131

### QUÉBEC

1515 ave.  
St-Jean Baptiste, Suite 160  
Québec, Québec  
G2E 5E2  
Phone: (418) 877-7112  
Fax: (418) 877-7123

1447, Begin  
St-Laurent, (Montréal),  
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